

Tong, P.

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1652

APR 19 2000

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RAW SEQUENCE LISTING PATENT APPLICATION US/09/291,931A

DATE: 1999/04/13
TIME: 13:21:23

Input Set: I291931A.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

ENTERED

1 <110> APPLICANT: Kretz, Keith
2 <120> TITLE OF INVENTION: NOVEL PHYTASE
3 <130> FILE REFERENCE: 09010/029003
4 <140> CURRENT APPLICATION NUMBER: US/09/291,931A
5 <141> CURRENT FILING DATE: 1999-04-13
6 <150> EARLIER APPLICATION NUMBER: 08/910,798
7 <151> EARLIER FILING DATE: 1997-08-13
8 <150> EARLIER APPLICATION NUMBER: 09/259,214
9 <151> EARLIER FILING DATE: 1999-03-01
10 <160> NUMBER OF SEQ ID NOS: 4
11 <170> SOFTWARE: FastSEQ for Windows Version 4.0
12 <210> SEQ ID NO 1
13 <211> LENGTH: 1323
14 <212> TYPE: DNA
15 <213> ORGANISM: Escherichia coli
16 <220> FEATURE:
17 <221> NAME/KEY: CDS
18 <222> LOCATION: (1)...(1320)
19 <221> NAME/KEY: misc_feature
20 <222> LOCATION: (1)...(1323)
21 <223> OTHER INFORMATION: n = A,T,C or G
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24 Met Lys Ala Ile Leu Ile Pro Phe Leu Ser Leu Leu Ile Pro Leu Thr
25 1 5 10 15
26 ccg caa tct gca ttc gct cag agt gag ccg gag ctg aag ctg gaa agt 96
27 Pro Gln Ser Ala Phe Ala Gln Ser Glu Pro Glu Leu Lys Leu Glu Ser
28 20 25 30
29 gtg gtg att gtc agt cgt cat ggt gtg cgt gct cca acc aag gcc acg 144
30 Val Val Ile Val Ser Arg His Gly Val Arg Ala Pro Thr Lys Ala Thr
31 35 40 45
32 caa ctg atg cag gat gtc acc cca gac gca tgg cca acc tgg ccg gta 192
33 Gln Leu Met Gln Asp Val Thr Pro Asp Ala Trp Pro Thr Trp Pro Val
34 50 55 60
35 aaa ctg ggt tgg ctg aca ccg cgn ggt ggt gag cta atc gcc tat ctc 240
36 Lys Leu Gly Trp Leu Thr Pro Arg Gly Gly Glu Leu Ile Ala Tyr Leu
37 65 70 75 80
38 gga cat tac caa cgc cag cgt ctg gta gcc gac gga ttg ctg gcg aaa 288
39 Gly His Tyr Gln Arg Gln Arg Leu Val Ala Asp Gly Leu Leu Ala Lys
40 85 90 95
41 aag ggc tgc ccg cag tct ggt cag gtc gcg att att gct gat gtc gac 336
42 Lys Gly Cys Pro Gln Ser Gly Gln Val Ala Ile Ile Ala Asp Val Asp
43 100 105 110
44 gag cgt acc cgt aaa aca ggc gaa gcc ttc gcc gcc ggg ctg gca cct 384

W-->OK

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/291,931A

DATE: 03/30/2000
TECH CENTER 1600/2900
TIME: 13:21:23

Input Set: I291931A.RAW

45	Glu	Arg	Thr	Arg	Lys	Thr	Gly	Glu	Ala	Phe	Ala	Ala	Gly	Leu	Ala	Pro	
46			115				120						125				
47	gac	tgt	gca	ata	acc	gta	cat	acc	cag	gca	gat	acg	tcc	agt	ccc	gat	432
48	Asp	Cys	Ala	Ile	Thr	Val	His	Thr	Gln	Ala	Asp	Thr	Ser	Ser	Pro	Asp	
49			130				135						140				
50	ccg	tta	ttt	aat	cct	cta	aaa	act	ggc	gtt	tgc	caa	ctg	gat	aac	gcg	480
51	Pro	Leu	Phe	Asn	Pro	Leu	Lys	Thr	Gly	Val	Cys	Gln	Leu	Asp	Asn	Ala	
52			145				150					155				160	
53	aac	gtg	act	gac	gcg	atc	ctc	agc	agg	gca	gga	ggg	tca	att	gct	gac	528
54	Asn	Val	Thr	Asp	Ala	Ile	Leu	Ser	Arg	Ala	Gly	Gly	Ser	Ile	Ala	Asp	
55					165					170					175		
56	ttt	acc	ggg	cat	cgg	caa	acg	gcg	ttt	cgc	gaa	ctg	gaa	cgg	gtg	ctt	576
57	Phe	Thr	Gly	His	Arg	Gln	Thr	Ala	Phe	Arg	Glu	Leu	Glu	Arg	Val	Leu	
58				180						185				190			
59	aat	ttt	ccg	caa	tca	aac	ttg	tgc	ctt	aaa	cgt	gag	aaa	cag	gac	gaa	624
60	Asn	Phe	Pro	Gln	Ser	Asn	Leu	Cys	Leu	Lys	Arg	Glu	Lys	Gln	Asp	Glu	
61			195					200					205				
62	agc	tgt	tca	tta	acg	cag	gca	tta	cca	tcg	gaa	ctc	aag	gtg	agc	gcc	672
63	Ser	Cys	Ser	Leu	Thr	Gln	Ala	Leu	Pro	Ser	Glu	Leu	Lys	Val	Ser	Ala	
64			210				215					220					
65	gac	aat	gtc	tca	tta	acc	ggt	gcg	gta	agc	ctc	gca	tca	atg	ctg	acg	720
66	Asp	Asn	Val	Ser	Leu	Thr	Gly	Ala	Val	Ser	Leu	Ala	Ser	Met	Leu	Thr	
67			225				230				235				240		
68	gag	ata	ttt	ctc	ctg	caa	caa	gca	cag	gga	atg	ccg	gag	ccg	ggg	tgg	768
69	Glu	Ile	Phe	Leu	Leu	Gln	Gln	Ala	Gln	Gly	Met	Pro	Glu	Pro	Gly	Trp	
70					245					250					255		
71	gga	agg	atc	acc	gat	tca	cac	cag	tgg	aac	acc	ttg	cta	agt	ttg	cat	816
72	Gly	Arg	Ile	Thr	Asp	Ser	His	Gln	Trp	Asn	Thr	Leu	Leu	Ser	Leu	His	
73				260					265					270			
74	aac	gcg	caa	ttt	tat	ttg	cta	caa	cgc	acg	cca	gag	gtt	gcc	cgc	agc	864
75	Asn	Ala	Gln	Phe	Tyr	Leu	Leu	Gln	Arg	Thr	Pro	Glu	Val	Ala	Arg	Ser	
76			275					280					285				
77	cgc	gcc	acc	ccg	tta	ttg	gat	ttg	atc	atg	gca	gcg	ttg	acg	ccc	cat	912
78	Arg	Ala	Thr	Pro	Leu	Leu	Asp	Leu	Ile	Met	Ala	Ala	Leu	Thr	Pro	His	
79			290				295					300					
80	cca	ccg	caa	aaa	cag	gcg	tat	ggt	gtg	aca	tta	ccc	act	tca	gta	ctg	960
81	Pro	Pro	Gln	Lys	Gln	Ala	Tyr	Gly	Val	Thr	Leu	Pro	Thr	Ser	Val	Leu	
82			305				310					315				320	
83	ttt	att	gcc	gga	cac	gat	act	aat	ctg	gca	aat	ctc	ggc	ggc	gca	ctg	1008
84	Phe	Ile	Ala	Gly	His	Asp	Thr	Asn	Leu	Ala	Asn	Leu	Gly	Gly	Ala	Leu	
85				325						330					335		
86	gag	ctc	aac	tgg	acg	ctt	ccc	ggt	cag	ccg	gat	aac	acg	ccg	cca	ggt	1056
87	Glu	Leu	Asn	Trp	Thr	Leu	Pro	Gly	Gln	Pro	Asp	Asn	Thr	Pro	Pro	Gly	
88			340						345					350			
89	ggt	gaa	ctg	gtg	ttt	gaa	cgc	tgg	cgt	cgg	cta	agc	gat	aac	agc	cag	1104
90	Gly	Glu	Leu	Val	Phe	Glu	Arg	Trp	Arg	Arg	Leu	Ser	Asp	Asn	Ser	Gln	
91			355					360					365				
92	tgg	att	cag	gtt	tcg	ctg	gtc	ttc	cag	act	tta	cag	cag	atg	cgt	gat	1152
93	Trp	Ile	Gln	Val	Ser	Leu	Val	Phe	Gln	Thr	Leu	Gln	Gln	Met	Arg	Asp	
94			370					375						380			

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RAW SEQUENCE LISTING
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95      aaa acg ccg ctg tca tta aat acg ccg ccc gga gag gtg aaa ctg acc      1200
96      Lys Thr Pro Leu Ser Leu Asn Thr Pro Pro Gly Glu Val Lys Leu Thr
97      385              390              395              400
98      ctg gca gga tgt gaa gag cga aat gcg cag ggc atg tgt tcg ttg gca      1248
99      Leu Ala Gly Cys Glu Glu Arg Asn Ala Gln Gly Met Cys Ser Leu Ala
100     405              410              415
101     ggt ttt acg caa atc gtg aat gaa gca cgc ata ccg gcg tgc agt ttg      1296
102     Gly Phe Thr Gln Ile Val Asn Glu Ala Arg Ile Pro Ala Cys Ser Leu
103     420              425              430
104     aga tct cat cac cat cac cat cac taa      1323
105     Arg Ser His His His His His
106     435              440
107     <210> SEQ ID NO 2
108     <211> LENGTH: 440
109     <212> TYPE: PRT
110     <213> ORGANISM: Escherichia coli
111     <400> SEQUENCE: 2
112     Met Lys Ala Ile Leu Ile Pro Phe Leu Ser Leu Leu Ile Pro Leu Thr
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115     20          25          30
116     Val Val Ile Val Ser Arg His Gly Val Arg Ala Pro Thr Lys Ala Thr
117     35          40          45
118     Gln Leu Met Gln Asp Val Thr Pro Asp Ala Trp Pro Thr Trp Pro Val
119     50          55          60
120     Lys Leu Gly Trp Leu Thr Pro Arg Gly Gly Glu Leu Ile Ala Tyr Leu
121     65          70          75          80
122     Gly His Tyr Gln Arg Gln Arg Leu Val Ala Asp Gly Leu Leu Ala Lys
123     85          90          95
124     Lys Gly Cys Pro Gln Ser Gly Gln Val Ala Ile Ile Ala Asp Val Asp
125     100         105         110
126     Glu Arg Thr Arg Lys Thr Gly Glu Ala Phe Ala Ala Gly Leu Ala Pro
127     115         120         125
128     Asp Cys Ala Ile Thr Val His Thr Gln Ala Asp Thr Ser Ser Pro Asp
129     130         135         140
130     Pro Leu Phe Asn Pro Leu Lys Thr Gly Val Cys Gln Leu Asp Asn Ala
131     145         150         155         160
132     Asn Val Thr Asp Ala Ile Leu Ser Arg Ala Gly Gly Ser Ile Ala Asp
133     165         170         175
134     Phe Thr Gly His Arg Gln Thr Ala Phe Arg Glu Leu Glu Arg Val Leu
135     180         185         190
136     Asn Phe Pro Gln Ser Asn Leu Cys Leu Lys Arg Glu Lys Gln Asp Glu
137     195         200         205
138     Ser Cys Ser Leu Thr Gln Ala Leu Pro Ser Glu Leu Lys Val Ser Ala
139     210         215         220
140     Asp Asn Val Ser Leu Thr Gly Ala Val Ser Leu Ala Ser Met Leu Thr
141     225         230         235         240
142     Glu Ile Phe Leu Leu Gln Gln Ala Gln Gly Met Pro Glu Pro Gly Trp
143     245         250         255
144     Gly Arg Ile Thr Asp Ser His Gln Trp Asn Thr Leu Leu Ser Leu His

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RAW SEQUENCE LISTING
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145           260           265           270
146 Asn Ala Gln Phe Tyr Leu Leu Gln Arg Thr Pro Glu Val Ala Arg Ser
147           275           280           285
148 Arg Ala Thr Pro Leu Leu Asp Leu Ile Met Ala Ala Leu Thr Pro His
149           290           295           300
150 Pro Pro Gln Lys Gln Ala Tyr Gly Val Thr Leu Pro Thr Ser Val Leu
151           305           310           315           320
152 Phe Ile Ala Gly His Asp Thr Asn Leu Ala Asn Leu Gly Gly Ala Leu
153           325           330           335
154 Glu Leu Asn Trp Thr Leu Pro Gly Gln Pro Asp Asn Thr Pro Pro Gly
155           340           345           350
156 Gly Glu Leu Val Phe Glu Arg Trp Arg Arg Leu Ser Asp Asn Ser Gln
157           355           360           365
158 Trp Ile Gln Val Ser Leu Val Phe Gln Thr Leu Gln Gln Met Arg Asp
159           370           375           380
160 Lys Thr Pro Leu Ser Leu Asn Thr Pro Pro Gly Glu Val Lys Leu Thr
161           385           390           395           400
162 Leu Ala Gly Cys Glu Glu Arg Asn Ala Gln Gly Met Cys Ser Leu Ala
163           405           410           415
164 Gly Phe Thr Gln Ile Val Asn Glu Ala Arg Ile Pro Ala Cys Ser Leu
165           420           425           430
166 Arg Ser His His His His His His
167           435           440
168 <210> SEQ ID NO 3
169 <211> LENGTH: 49
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial Sequence
172 <220> FEATURE:
173 <223> OTHER INFORMATION: Oligonucleotide
174 <400> SEQUENCE: 3
175 gtttctgaat tcaaggagga atttaaataa aagcgatctt aatcccatt 49
176 <210> SEQ ID NO 4
177 <211> LENGTH: 33
178 <212> TYPE: DNA
179 <213> ORGANISM: Artificial Sequence
180 <220> FEATURE:
181 <223> OTHER INFORMATION: Oligonucleotide
182 <400> SEQUENCE: 4
183 gtttctggat ccttacaac tgcacgccg tat 33

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VERIFICATION SUMMARY
PATENT APPLICATION US/09/291,931A

DATE: 03/30/2000

TIME: 13:21:23

Input Set: I291931A.RAW

Line ? Error/Warning

Original Text

35 W "N" or "Xaa" used: Feature required

aaa ctg ggt tgg ctg aca ccg cgn ggt ggt g